

*CLAIM AMENDMENTS*

Claims 1-33 (Cancelled).

34. (Currently Amended) A method of producing docosahexaenoic acid (DHA) with a strain of *Cryptocodinium cohnii* comprising:

culturing a strain of *Cryptocodinium cohnii* microorganism in a nutrient medium for the synthesis of docosahexaenoic acid (DHA) by the microorganism, comprising culturing a microorganism comprising *Cryptocodinium cohnii* with a compound selected from containing a compound selected from the group consisting of acetic acid and an acetate ion, the *Cryptocodinium cohnii* microorganism using the compound as the primary carbon source to synthesize the and synthesizing DHA, wherein the culturing process parameters are controlled in a manner that results in the absence of a stationary phase during the culturing process, and

recovering oil including DHA from the strain of *Cryptocodinium cohnii*.

Claims 35-36 (Cancelled).

37. (Currently Amended) The method according to claim 34, wherein the use of using the compound as a carbon source by the microorganism the primary carbon source causes an increase in pH of the nutrient medium, and the method further includes including monitoring the pH of the nutrient medium to control the addition of the compound to the medium and adding more compound to the nutrient medium the compound in response to an increase in the pH of the nutrient medium.

38. (Currently Amended) The method according to claim 37, wherein adding the more compound to the nutrient medium comprises adding more compound to maintain maintains the pH of the nutrient medium substantially at a preset value of between about 5 and about 8.

39. (Currently Amended) The method according to claim 38, wherein adding more compound to the nutrient medium comprises adding more compound to maintain the pH of the nutrient medium at the preset value is about 6.5.

40. (Currently Amended) The method according to claim 37, wherein the pH of the nutrient medium is monitored by means communicating with a control device, and wherein the control device controlling the addition controls adding more compound to the nutrient medium.

Claims 41-42 (Cancelled).

43. (Currently Amended) The method according to claim 37 42, wherein adding more compound to the nutrient medium comprises adding more compound to the nutrient medium in a mixture including the further component is an organic acid.

44. (Currently Amended) The method according to claim 37 42, wherein adding more compound to the nutrient medium comprises adding more compound to the nutrient medium in a mixture including the further component is a lipid.

45. (Currently Amended) The method according to claim 37-42, wherein adding more compound to the nutrient medium comprises adding more compound which is supplied from the mixture is a waste product from an industrial process.

46. (Currently Amended) The method according to claim 37 42, wherein adding more compound to the nutrient medium comprises adding more compound to the nutrient medium in a mixture including the further component is a nitrogen source, a phosphorus source, an amino acid, a vitamin, a growth factor, a salt or a lipid.

47. (Currently Amended) The method according to claim 34, wherein prior to culturing the nutrient medium containing the compound with acetic acid and or an acetate ion comprises a second nutrient medium and prior to culturing the strain of *Cryptocodinium cohnii* in the second nutrient medium, the strain of *Cryptocodinium cohnii* microorganism is cultured in a first nutrient medium containing with glucose.

48. (Currently Amended) The method according to claim 34, wherein the nutrient medium contains microorganism is cultured with an organic nitrogen source.

49. (Currently Amended) The method according to claim 48, wherein the organic nitrogen source is yeast extract and the initial concentration of the yeast extract in the nutrient medium is greater than 7.5 g/l.

50. (Currently Amended) The method according to claim 49, wherein the initial concentration of yeast extract in the nutrient medium is 10 g/l.

51. (Currently Amended) The method according to claim 34, wherein the nutrient medium contains microorganism is cultured with salts or osmoticants.

Claims 52-73 (Cancelled).

74. (Currently Amended) The method of claim 34, wherein ~~said culturing method~~ the strain of *Crypthecodinium cohnii* is performed as a continuous or semi-continuous process.

Claim 75 (Cancelled).

76. (Currently Amended) The A-method according to claim 34 ~~75~~ further comprising purifying the oil recovered from the strain of *Crypthecodinium cohnii* to increase the docosahexaenoic acid content of the oil.

Claim 77 (Cancelled).

78. (Currently Amended) The A-method according to claim 34 wherein the initial concentration of the compound acetic acid or acetate ion in the culture is between 4 and 16 g/l.

79. (Currently Amended) The A-method according to claim 78, wherein the initial concentration of the compound acetic acid or acetate ion is about 8 g/l.

Claim 80 (Cancelled).

81. (Currently Amended) The A-method according to claim 34, wherein the percent docosahexaenoic acid in the oil recovered from the strain of *Crypthecodinium cohnii* total extractable lipid is at least 29.3.

82. (Currently Amended) The A-method according to claim 34, wherein during the culturing process the total concentration of docosahexaenoic acid synthesized by the strain of *Crypthecodinium cohnii* in the growth medium rises to at least 0.9 grams per liter of nutrient medium4.

Claims 83-86 (Cancelled).